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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,159	02/20/2007	Georg Bachmaier	03869.105608	3530
86528	7590	03/22/2010	EXAMINER	
King & Spalding LLP 401 Congress Avenue Suite 3200 Austin, TX 78701			ROST, ANDREW J	
			ART UNIT	PAPER NUMBER
			3753	
			NOTIFICATION DATE	DELIVERY MODE
			03/22/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/595,159	Applicant(s) BACHMAIER ET AL.	
	Examiner Andrew J. Rost	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2006 and 10 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-18 and 20 is/are rejected.
- 7) ☒ Claim(s) 5 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/9/2006, 11/16/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements filed 3/9/2006 and 11/16/2006 are acknowledged by the examiner.

Drawings

2. Figures 1 and 1A should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
3. The drawings submitted with the 371 application submitted on 3/9/2006 were utilized.

Specification

4. The disclosure is objected to because of the following informalities: the listing of the figures does not include a brief description of Figures 1 and 1A.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1, 4 and 8-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benson (3,418,980) in view of Nickells (2,922,614).

Regarding claim 1, Benson discloses a valve assembly having an actuator unit comprising a housing (24) with an actuator (30) in the housing, a first end of the actuator having a first end cap (38), a stop (portion of the housing 24 on which the upper surface of the first end cap contacts in figure 2) arranged as a seat on the housing (24) wherein the stop maintains a distance between a sealing element (48) of a valve unit (lower portion of the housing that surrounds the sealing element 48) and the first end cap with the distance being smaller than the stroke distance effected by the actuator. Benson does not disclose the use of a hydraulic compensation element.

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However, Nickells teaches the use of a hydraulic compensation element that is filled with a fluid (oil) and is connected to an actuator (solenoid element having coil 11) in order to dampen the movement of the actuator to reduce noise and provide hammer action for the valve (col. 1, lines 21-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the actuator of Benson with a hydraulic compensation element as taught by Nickells in order to dampen the movement of the actuator to reduce noise of the actuator.

In regards to claim 4, Benson discloses the stop is embodied as a taper on the internal diameter of the housing (figure 2).

In regards to claim 8, Benson discloses the actuator is pre-tensioned by a tubular spring (rubber sleeve 32).

In regards to claim 9, Nickells teaches the hydraulic compensation element is rigid in relation to forces applied for short periods (the fluid provides a dampening of the movement of the actuator; col. 1, lines 21-26) but gives way when the actuator is actuated.

In regards to claim 10, Nickells teaches the hydraulic compensation element has at least one hydraulic chamber (chamber defined between the shaft 24 and the plate having openings 37 and 40), a housing (defined by the elements 16 and the plate having openings 37 and 40), a piston (24) which can be pushed into the housing and a storage volume (defined by the bellows 39) which are sealed externally by means of a membrane (bellows 39) wherein the housing is connected to a second end of the actuator (figure).

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In regards to claim 11, Nickells teaches the hydraulic compensation chamber features a number of hydraulic chambers (a chamber is defined between the shaft 24 and the plate having openings 37 and 40).

In regards to claim 12, Nickells teaches the hydraulic chambers are embodied between axially pressure surfaces of the housing (defined by the elements 16 and the plate having openings 37 and 40) and the piston (24).

In regards to claim 13, Nickells teaches the housing comprises axial holes (37, 40) which connect the storage volumes (defined within the bellows 39) with the hydraulic compensation chambers.

In regards to claim 14, Nickells teaches the hydraulic compensation element of the piston (24) and the housing each comprise different coefficients of thermal expansion (the different elements have different thicknesses and surfaces areas).

In regards to claim 15, Nickells teaches the hydraulic compensation element is provided with an equalization store (defined within the bellows 39).

Regarding claim 16, the modified Benson reference discloses a method of operation and/or manufacture wherein a first end cap (38 in Benson) is moved pasted a stop (tapered portion formed in the housing 24) such that with movement of the end cap toward the hydraulic compensation chamber (as taught by Nickells), the first end cap hits the stop and the movement is blocked.

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1. Claims 2, 3, 6, 7, 17, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benson (3,418,980) in view of Nickells (2,922,614) and further in view of Lorraine et al. (2002/0139863).

In regards to claim 2, 3 and 17, Benson discloses a valve assembly having an actuator unit comprising a housing (24) with an actuator (30) in the housing, a first end of the actuator having a frustoconical first end cap (38), a stop (portion of the housing 24 on which the upper surface of the first end cap contacts in figure 2) arranged as a seat on the housing (24) wherein the stop maintains a distance between a sealing element (48) of a valve unit (lower portion of the housing that surrounds the sealing element 48) and the first end cap with the distance being smaller than the stroke distance effected by the actuator. Benson does not disclose the use of a hydraulic compensation element. However, Nickells teaches the use of a hydraulic compensation element that is filled with a fluid (oil) and is connected to an actuator (solenoid element having coil 11) in order to dampen the movement of the actuator to reduce noise and provide hammer action for the valve (col. 1, lines 21-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the actuator of Benson with a hydraulic compensation element as taught by Nickells in order to dampen the movement of the actuator to reduce noise of the actuator. Benson does not disclose the first end cap to have its lateral surface featuring steps and having a plunger pointing towards the valve unit. However, Lorraine et al. teach a first end cap (44) to have steps on its lateral surface (the steps support the sleeve 110 and the guide member shown in figure 1) and a plunger (42) pointing toward a valve unit (17).

Therefore, it would have been an obvious matter of design choice to make the different portions of the first end cap of Benson as of whatever form or shape (lateral steps and having a plunger) was desired or expedient. A change in form or shape is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results. *In re Dailey et al.*, 149 USPQ 47.

In regards to claim 18, Benson discloses the stop is embodied as a taper on the internal diameter of the housing (figure 2).

In regards to claims 6 and 20, the modified Benson reference discloses the actuator to have a second end cap (34) which is connected to the hydraulic compensation element (Nickells teaches the hydraulic compensation element is connected to a second end of the actuator at the bellows 39).

In regards to claim 7, the Benson reference discloses the second end cap (34) is connected to leads (20, 17) and has an opening.

Allowable Subject Matter

2. Claims 5 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not disclose the first end cap featuring two ears on a trans-axial plane of which the end cap has an external dimension which is greater than

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the minimum internal dimension of the stop in combination with the other claim limitations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew J. Rost whose telephone number is 571-272-2711. The examiner can normally be reached on 7:00 - 4:30 M-Th and 7:00 - 12:00 Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. J. R./
Examiner, Art Unit 3753

/John K. Fristoe Jr./
Primary Examiner, Art Unit 3753